

## ABSTRACT

Composites of polytetrafluoroethylene and a structural material (polymer, metal, ceramic, leather, or wood) are bonded with a cured admixture of tetrafluoroethylene-hexafluoropropylene-vinylidene fluoride terpolymer, polyethylene-oxide-modified silicone polymer coupling agent, and oxygen-radical-containing copolymer (epoxy polymer, phenoxy polymer, or hydroxylated diamine-diepoxide derivative copolymer). The bonded surface of the polytetrafluoroethylene portion of the composite is etched (chemical etching, electron-beam etching, laser etching, or plasma etching) prior to application of uncured admixture. The composites are useful in making items such as seals, gaskets, chemically-resistant hoses, o-rings, and pump diaphragms.